DOCUMENT RESUME

ED 123 388 CE 007 124

AUTHOR Oaklief, Charles R.
TITLE The Critical Incident Technique: Research Applications in the Administration of Adult and Continuing Education.
PUB DATE Apr 76
NOTE 27p.; Paper presented at the Adult Education Research Conference (Toronto, Ontario, April 7-9, 1976)

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Administrative Policy; Administrator Characteristics; Administrator Evaluation; Administrator Responsibility; *Administrator Role; *Adult Education; Chief Administrators; College Administration; College Deans; *Community Colleges; *Critical Incidents Method; Educational Administration; Models; Questionnaires; *Research Methodology; Role Perception
IDENTIFIERS Administrator Behavior; *Kansas

ABSTRACT

The applicability of the Critical Incidents Technique as a potential research methodology for those in adult and continuing education is demonstrated in the study of 19 selected Kansas junior-community colleges and their respective administrators (totaling 38) at the vice-president, dean, and director levels. The two populations included those with academic (degree oriented) responsibilities and those with adult-continuing education and community service (non-credit) responsibilities. The objective was to identify administrative behavior which might lead to greater accomplishment of the adult-continuing education and community service function. Data were initially collected through a mailed questionnaire with followup information gathered by having each group report four incidents, two positive and two negative, relative to achievement of their administrative role. Findings are reported according to the questionnaire items which represented general and specific areas including administrative task characteristics, administrative practice, and program planning and development perceptions over both implementation and importance scales. The critical incidents are listed in two categories: positive or successful, and negative or unsuccessful. The paper also discusses the administrator effectiveness model on which the study was based, a definition of the Critical Incident Technique and its development, and recommendations for further research. A three-page bibliography concludes the study. (Author/MS)

Documents acquired by ERIC include many informal unpublished materials not available from other sources. ERIC makes every effort to obtain the best copy available. Nevertheless, items of marginal reproducibility are often encountered and this affects the quality of the microfiche and hardcopy reproductions ERIC makes available via the ERIC Document Reproduction Service (EDRS). EDRS is not responsible for the quality of the original document. Reproductions supplied by EDRS are the best that can be made from the original.

ED123388

The Critical Incident Technique: Research Applications in the Administration of Adult and Continuing Education

Charles R. Oaklief
Kansas State University

Paper presented at the Adult Education Research Conference, King Edward Hotel Toronto, Ontario, Canada
April 7, 8, 9, 1976

CE007124

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

The Critical Incident Technique: Research Applications in the Administration of Adult and Continuing Education

The major purposes of this study involved the investigation of successful and unseccessful administrative behavior found to be conducive toward development and conduct of adult-continuing and community education functions in selected Kansas junior-community colleges. The objective was to identify behavior which might lead to greater accomplishment of the adult-continuing education and community service function. The study included administrative leadership at the vice-president, dean, and director levels in academic affairs and adult-continuing education and community service areas.

The data was collected initially through a mailed questionnaire with follow-up information gathered through application of a critical incident technique which was used in obtaining direct observations of administrative behavior. The major objectives of the study were to:

1. Identify the degree of importence and performance placed on selected administrative behavioral tasks by Kansas junior-community college administrative personnel;
2. Identify the critical administrative behaviors of Kansas junior-community college administrators in adult-continuing education and community service programs and their counter-parts in academic affairs;
3. Develop a classification system and determine those administrative behaviors deemed critical toward accomplishing the college objectives in the adult-continuing, and community service function.

Conceptualization of the Study

The accompanying model of administrator effectiveness (see figure 1)

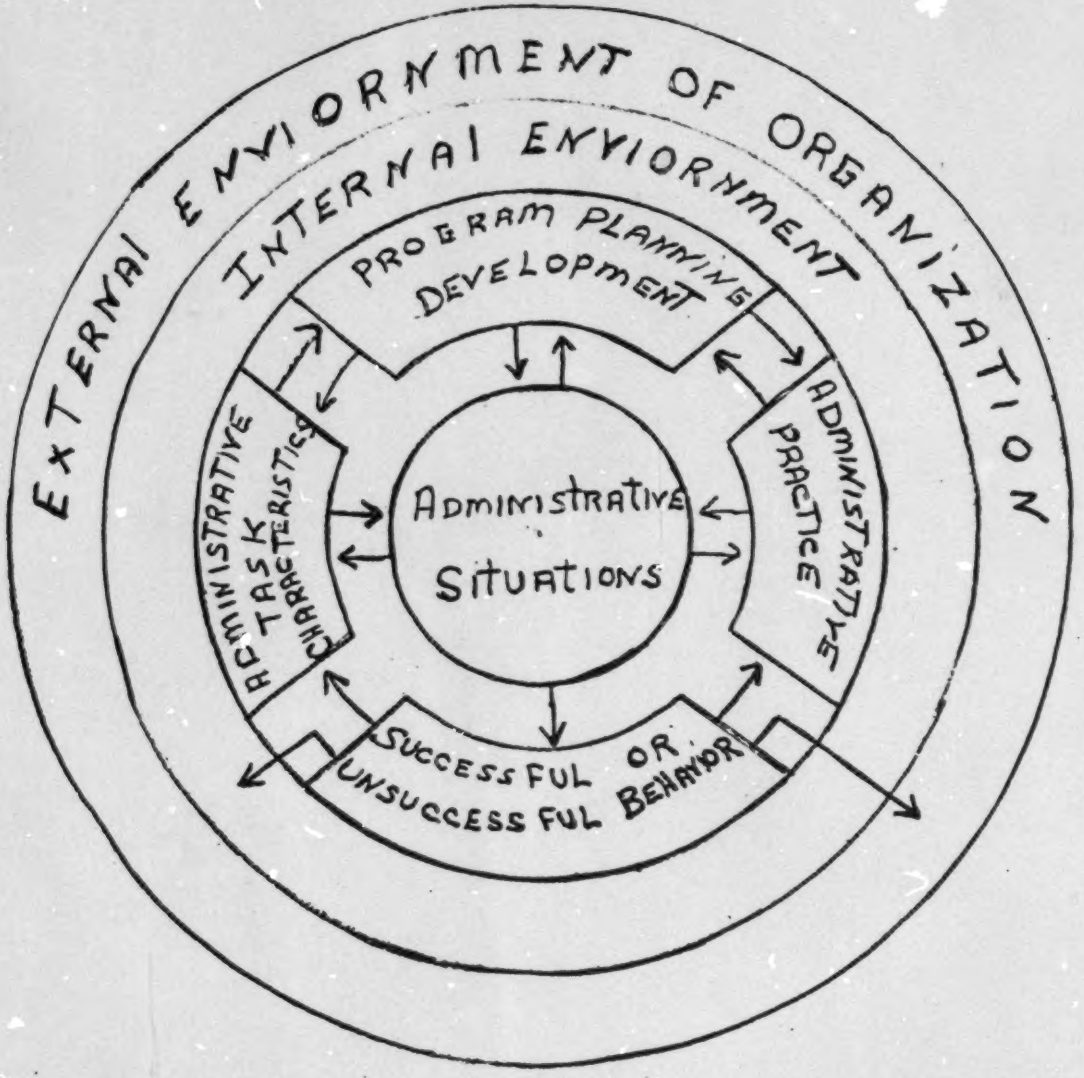
adopted from Lippitt[1] illustrates how the research project deals with the investigation of administrative behavior found successful or found to be unsuccessful toward development and conduct of adult-continuing and community colleges. Basically, the model visualizes the following: (1) It shows how the two components of data collection, questionnaire and critical incident technique, compliment the project mission statement for identifying administrative behavior conducive toward development and conduct of adult-continuing education. (2) It yields a perspective for one possible application of the critical incident technique. (3) It relates administrative behavior with selected aspects of management as represented by administrative task characteristics, program planning and development, and administrative practice. The supporting variables for the above three components are exhibited visually and have potential for a postulated cause-and-effect relationship and indicates one application of the critical incident technique. Administrative task characteristics, program planning and development, and administrative practice represent a system in which each variable catagory may cause effects in the other two areas. The possibility of total combined interactions are also feasable. In reality, the categories of interest need not be limited to the areas which were selected by the researcher and are manifest through various administrative situations as described in demographic areas of the study. The administrator effectiveness model suggests that criteria representing administrative tasks, program planning and development, and administrative practice performances react with various organizational situations with resulting behavior being identified as successful or unsuccessful

---

[1]Gordon L. Lippitt, Organizational Renewal (New Jersey: Prentice-Hall, Inc., 1958), pp. 1-24.

behavior on the part of vice-presidents, deans, or directors of academic affairs and their counterparts in adult-continuing education and community services. Successful or positive behavior, for purposes of the study, was equated with goal accomplishment relative to the college's mission statement in adult-continuing and community service program areas. Few studies in the educational area of adult and continuing education have approached the effect of critical administrator's behavior on goal accomplishment. Numerous studies have dealt with the trait characteristics of the adult educator with recommendations for specific task performance levels, however, little evidence can be obtained which can realistically be credited toward actual achievement of goals and objectives. The second phase of this study focuses on specific critical incidences of administrative behavior which actually resulted in either successful or unsuccessful environmental situations for performance of goal oriented behavior. The critical incident technique was utilized in determining "key" administrative behavior as a component of the study.

Program - Needs/Demands Resources Evaluation Etc.
Objectives Conducts Interfacing



Tasks
Initiating Action
Control
Imp. Policy
Employment
Discussion
Allocate Resources
Functional Division
Goal Establishment
Etc.

Practice
Communication
Coordination
Quantity/Quality
Articulation
Collaboration
Authority
Supervision
Environment
Etc.

The Critical Incident Technique Defined

World War II provided the initial environment for development of the critical incident technique which was first applied through studies in the Aviation Psychology Program of the United States Army Air Forces. The problem and resulting need for the critical incident technique emerged through an effort to improve the effectiveness of Air Force tactical operations and was manifest through research designed to develop procedures for selecting and classifying air crews. Basically, the technique involved procurement of firsthand reports either from mission records and/or firsthand accounts of satisfactory and unsatisfactory execution of specific tasks assigned various Army air operations.

A major developer and contributor to the critical incident technique is John C. Flanagan of the American Institute for Research and University of Pittsburgh. Flanagan was an initiator of the critical incident research of the Aviation Psychology Program and has contributed greatly to the growth and development of this research technique over the years. Flanagan's extensive writing in the general research areas relating to application of the critical incident technique has resulted in the following definition:

> . . . the critical incident technique, rather than collecting opinions, hunches, and estimates, obtains a record of specific behaviors from those in the best position to make the necessary observations and evaluations. The collection and tabulation of these observations make it possible to formulate the critical requirements of an activity. A list of critical behaviors provides a sound basis for making inferences as to requirements, in terms of aptitudes, training, and other characteristics.[1]

---

[1] John C. Flanagan, "The Critical Incident Technique," Psychological Bulletin, LI (1954), p. 355.

A distinguishing characteristic in critical incident research is the provision for a set of procedures utilized in collecting direct observations of human behavior in such a way so as to facilitate potential usefulness in solving practical problems and in the development of socio-psychological principles. The approach can provide the framework for collecting observed incidents which have important significance to the researcher. The process provides appropriate methods for handling systematically defined criteria. Application of the critical incident technique in the area of clinical experience progress records for nursing students provided a situation for describing specific terms relative to the technique by Flanagan, Gosnell, and Fivars. In this respect, an incident is described as ". . . any observable bit of human activity that is sufficiently complete in itself to permit observations to be made - to permit inferences and predictions to be made about the person performing the act."[2] Additionally, these authors suggest that an incident becomes critical when the behavior occures in a situation where its purpose or intent is fairly clear to the observer and there is little doubt as to the effectiveness or the ineffectiveness of the behavior in accomplishing the task at hand. The practical application of the research technique would stipulate that an effective incident is one which helps to do a job well. The ineffective incident is one which causes a delay or failure and may prevent the job from being completely satisfactory.

Development of the Critical Incident Technique

Development of the critical incident technique can be most profusely identified through a varied number of applications beginning initially in the

---

[2]John C. Flanagan, Doris Gosnell, and Grace Fivars. "Evaluating Student Performance," The American Journal of Nursing, LXIII (November, 1963), No. 11.

World War II Aviation Psychology Program with John C. Flanagan and associates. The task required identification of ways and means of determining critical requirements for successful performance of specific military jobs and the development of respective training procedures for specific job tasks. Flanagan and associates collected and processed thousands of critical incidents relative to effective and ineffective behaviors by pilots, navigators, and bombardiers into successful and unsuccessful categories. After classification of the incidents into major categories of behavior, the researchers found it possible to identify critical occupational tasks, synthesize personnel selection tests and to initiate training and evaluation procedures.

Following World War II, many researchers and practitioners have utilized the critical incident technique in a variety of research and development activities in education, health, business and industry as well as extensive applications in the military services. It has been used to validate clinical performance records for nurses,[3] as a determinant of training requirements for public school teachers,[4] and to qualify the priority behavior and job tasks of Christian education directors and chairmen in the Presbyterian Church.[5] The research technique has also been applied in situations dealing with school administrators, psychiatric aides, Cooperative Extension personnel, private secretaries, mental patients, hourly wage employees, and many

---

[3]Grace Fivars and Doris Gosnell. Nursing Evaluation: The Problem and the Processes. Macmillan. New York, 1966.

[4]Lawrence H. Stewart, "A Study of Critical Training for Teaching Success," Journal of Educational Research. XLIX, May 1956.

[5]William G. Rusch. "Critical Requirements for Directors and Administers of Christian Education in the Presbyterian Church in the USA," Dissertation Abstracts, XX (1951-9), pp. 393-394.

others. A review of the literature yields numerous applications of the critical incident technique, however, this approach is rather time consuming since most applications are not identified by the technique but are described in research design sections and otherwise less usable. Early development is well documented in a bibliographical listing of over 200 references relative to the critical incident technique by Flanagan in 1963.[6]

Procedures in Applying the Critical Incident Technique

A review of practical research applications of this technique leads to the conclusion that it is a flexible set of principles and procedures which have been modified in many ways to meet the specific needs and situations in a variety of settings. An analysis of 436 effective and ineffective incidents of critical behavior involving Extension Agricultural Agents as professional adult educators by Kohl resulted in the following observation:

> "The key steps in conducting studies using the critical incident technique appear to be selecting the observer group, collecting the incidents, determining the frame of reference to describe results, identifying and classifying critical behaviors, and determining critical job requirements."[7]

A frequent analysis procedure utilized in many study designs is the determination of relationships between incidents and various control variables such as those suggested by Barns.[8] It appears that the final question of much research regarding the acceptance of findings as fact is a direct result of

---

[6]Flanagan, loc. cit.

[7]Fred E. Kohl and G. L. Carter, Jr. "A Critical Incident Study of the Professional Adult Educator (Extension Agricultural Agent)" (unpublished paper, University of Wisconsin, 1972), p. 7.

[8]Thelma I. Barnes, "The Critical Incident Technique." Sociology and Social Research, XLIV, (No. 5, 1960), p. 347.

the degree of objectivity which the researcher and subjects can make of their reported observations. Objectivity refers to the tendency for various independent observers to make similar judgements or observations in their reports. According to Flanagan,[9] objectivity of such judgements depends on the precision by which characteristics are defined and the relative competence of researchers and observers in interpreting definitions relative to the recording of incidents.

The classification of critical incidents into an appropriate frame of reference appears at best to be a rather subjective procedure in terms of establishing the classification system, however, experience has demonstrated a satisfactory level of objectivity is experienced in assigning critical incidents into defined categories. A prime consideration is due the conclusive evidence or inferences which are drawn regarding the postulation of recommendations or procedures for improving performance, establishing procedures, defining occupational tasks, finalizing curriculum, or whatever the application may be intended to produce. In this regard, those incidents selected need careful consideration relative to demographic and related background information and environmental conditions operating in each specific research situation. This step in the overall procedure is considered to be most important since trends may be identified, hypotheses formulated, or principles established. Research behavior supportive to application of the critical incident technique, particularly the identification and orientation of observers and collection of incidents can be enhanced through the following ideas:

---

[9]Flanagan, loc. cit.

1. Development of a basic orientation relative to the general aims of the activity under observation.

The most useful statements center around "slogan-like" phrases which provide a maximum of communication with minimum misinterpretation.

2. The obtaining of behavior defined as more extreme relative to its effectiveness or ineffectiveness toward reaching objectives may be a practical approach for securing specific data.

The collection of thousands of critical incidents has resulted in a general belief among researchers that extreme incidents can be more accurately identified than subject behavior which would be average or more nearly expected.

3. In keeping with a simplified process of data collection, it is important that observations of critical incidents be synthesized and recorded early so that salient views and findings are intact and accurate.

Recording of observed data is best accomplished at the time of observation. In this respect, facts and other demographic data which may contribute to classification of incidents can be validated.

4. Collection of recent incidents gives credence to the reporting of actual happenings and behavior.

The essence of securing recent incidents is enhanced with details that are as complete as possible and which have direct bearing on the incidents. In this respect, direct observation of the incidents is recommended, however, the use of secondary collection techniques involving sound recordings or video-tape documentation has been utilized with success. Flanagan[10] experienced the direct observation of incidents to be the preferred approach but finds the general practice to be the use of recalled incident data due to the lower demands placed on cooperating personnel.

---

[10]Flanagan, loc. cit.

Interpretations of Findings

The several significant findings as determined by the study participants are developed in this section of the paper. They also suggest potential for future research and investigation.

Data discussed in this area describes the perceptions of Kansas junior-community college administrators in academic affairs and their counterparts in adult-continuing relative to their degree of implementation and importance of task characteristics conducive to successful administrative behavior. The respondents' understanding of their administrative behavior was presented on a twenty-eight item response test relative to their junior-community colleges. These items represented both general and specific areas including administrative task characteristics, administrative practice, and program planning and development perceptions over both implementation and importance scales.

The total population of Kansas junior-community colleges was considered in design of the study. This group of nineteen junior-community colleges provided the basis from which thirty-eight respondents provided the raw data from which the final perception analysis was derived. Mean scores and ranks were calculated in a manner to aid description of the data. The scores were calculated from individual responses to a five point rating on the importance and on the implementation scales.

The degree to which the adult-continuing education function was equal to academic divisions in respective colleges was determined over fourteen variables. A review of demographic data regarding status comparisons relative to the academic affairs division and the division of adult-continuing education division revealed the following:

1. Respondents perceived that adult-continuing education administrators did not have more than equal status with their counterparts in academic affairs in Kansas junior-community colleges in any of the fourteen variables presented for consideration;

2. There were seven response areas over which the data revealed that Kansas junior-community colleges' continuing and Adult Education has equal and/or above status with academic affairs divisions. A review of the findings revealed these areas to include:

   a. Access to top administration
   b. Course promotion
   c. Access to faculty resources
   d. Staffing
   e. General resources to match growth
   f. Buying space (competitiveness for classrooms)
   g. Creditation of course work

Only the first variable area, access to top administration, had a significant above equal status rating. The remaining areas were considered only equal in status to academic affairs divisions;

3. Respondents perceived their adult-continuing education administrative functions to have less than equal status with academic affairs in half of the fourteen functional areas presented in the study;

4. Respondents perceived seven status areas to be less than equal to academic affairs. These areas included:

   a. Flexibility demanded by type of program for maximum goal attainment
   b. Advisory council and committee support
   c. Fringe benefits for instructors and faculty

d. Visability of students

e. Availability of student services and activities

f. Availability of student counseling services

In regard to the less than equal status, only those areas relating to direct student services were perceived as significantly low status.

5. Analysis would suggest that such areas reported as less than equal might well represent real problem areas which would flag attention for appropriate program planning and development.

Junior-community college adult-continuing education personnel and academic affairs personnel indicated their perception of importance for administrative task characteristics, administrative practice, and program planning and development relative to the adult-continuing education function on a five point scale. Results on these areas are presented in terms of their respective ratings.

1. Respondent perceptions were near the extremely important rating in that adult-continuing education administrators operate under a mission statement about continuing education for adults that has the policy backing of both trustees and top administrators. It was also extremely important to have a clear line of administrative authority and clear channel of communication to each college administrator and to be a full participating member of the college's top administrative decision-making team. Less emphasis was placed on resource allocation, fiscal areas, surveillance, and control.

2. Functions relating to authority for resource allocation, fiscal surveilance, and control on the presidents exception were rated only as some importance.

3. The respondents believed administrative akills centering around the ability to communicate, establishment of an autonomous adult-continuing education program, and the ability to make judicious use of authority were of considerable importance.

4. Administrative skills believed to be of less value and only of some importance related to the development of articulation with four-year research institutions relative to the adult-continuing education function.

5. The most important practices for administrative practice centered around maintaining high quality instructional programs, conducting programs in a coordinated manner through routine exchange of information, and joint sponsorship including sharing of facilities and resources.

6. Determining educational needs, demand for causes, and offering leadership in developing new courses were perceived to be the most important program development and planning functions for administration of adult programs. Also identifying enrollment motivational factors of adults and developing consortia with secondary schools were of considerable importance.

7. Areas concerning identification of job opportunities, analysis of competencies required, and offering graduate level courses in cooperation with four-year research institutions were perceived to be of less importance.

The implementation of administrative practice, tasks, and program planning in Kansas junior-community colleges constituted the last area of the questionnaire. A brief summary of the results include the following:

1. Respondents perceived Kansas junior-community colleges to be implementing very well those administrative tasks associated with development of lines of authority, communication, and operation under a mission statement directly related to the adult students;

2. Junior-community colleges were perceived as implementating best those administrative organization tasks considered as foundation areas which included being a member of the top decision-making team;

3. Respondents perceived implementation of authority for personnel employment, program direction and evaluation, resource allocation, and fiscal control as being well implemented, however, these were the lowest areas;

4. Administrative skill areas perceived as being well implemented included judicious use of authority, involvement of other administrative team members, and delegation, however, their perceptions were much lower on collaboration, reduction of inter-institutional threats and in developing articulation with four year research institutions;

5. Respondents perceived maintenance of highest quality instruction and sharing in commitments with academic affairs through joint use of faculty and other resources as very well implemented;

6. Fostering routine exchange of information within the college system was perceived as poorly implemented;

7. Development of new adult courses and programs and current staff personnel was rated top on the implementation scale;

8. Determining demand for courses in adult-continuing education and consortia arrangements with high schools to further extension of the learning experiences were perceived as well implemented in Kansas junior-community colleges;

9. Respondents reported that implementation of graduate programs with four year institution and support from advisory councils were rather poorly implemented;

10. Kansas junior-community colleges progress in implementing innovative program marketing techniques and evaluation of job competencies and follow-up of students needed for program development were not well implemented.

Critical Incident Inventory

Positive or Successful Incidents

Academic affairs administrator was called upon to develop a credit/non-credit program for training security personnel and a program for training of maintenance personnel for a private concern. The academic affairs division was to be responsible for the total program. The director of continuing education had developed a similar program at an earlier date. The continuing education personnel cooperated by offering their curriculum and program to academic affairs. The result was cooperation and improved service to the community.

An emergency medical program was requested by county government officials and originally developed and conducted by continuing education. It became obvious that participants needed certification by credit. The continuing education director initiated behavior and with the dean of academic affairs moved the program into the careers area of academic affairs. There was mutual gain in the area of cooperation and coordination. Continuing education received credit by the board of trustees for developing the program. Academic affairs gained needed F.T.E. numbers.

Academic affairs dean and community service dean initiated administrative change with the president so they both reported to the same superior in the college rather than community service reporting to the Dean of Academic affairs.

Vice-president for academic affairs initiated the idea of community service role into the recruitment, selection, and staff development of all academic affairs faculty and staff positions. Continuing education activities are now a part of every faculty position from the very beginning.

The Dean of instruction stated at a faculty orientation meeting that many of the faculty have experienced their most satisfying and rewarding work in doing adult education and community service instruction. Feedback and closure is quicker -- more direct in community service participation.

Director of community service initiated a position rotation with assistant administrator of academic affairs for a semester.

Board of trustees promoted former director of community services to dean of instruction at the college. The experience gained in the area of community and adult education seems to contribute to cooperation and improved communication with the academic affairs staff.

Director of community affairs initiated morning coffee-discussion period with the dean of instruction to "clear the air" on potential problem areas and to promote appropriate cooperation and communication.

Dean of adult education and Dean of instruction shared same receptionist thus creating fuller understanding of both program areas and improved coordination.

Director of continuing education initiated a direct procedure for the development of adult education and community service programs through decreasing time lag and maximizing autonomy of the office of adult and academic affairs. This was finalized with the Dean of instruction.

President communicated that his administrative team would avoid a win/lose situation in the implementation of academic and adult/continuing education programs.

Director of continuing education initiated involvement of dean of academic affairs in educational staff development programs to sensitize the academic dean to the potential of adult and community service educational activities.

The administrative team decentralized the administration of adult, continuing education, and community services to fit into all aspects of the college program rather than to be a completely autonomous division with no relationship with academic departments.

Administrative team developed a mission statement for the college which makes the adult education and community service function a "key" function of the total college.

President has created an atmosphere and environment conducive to experimentation and high tollerance to risk and failure relative to programing for adult/continuing education and community services.

Director of adult education and dean of academic affairs initiated a weekly "deans meeting" with the president for reviews of institutional concerns, discussion of problem areas, and analysis of goal achievement.

President initiated, with deans and directors, a weekly discussion period for purposes of improving communication, coordination, and problem solving.

Dean of community service initiated a procedure for feedback from regular college faculty relative to potential adult education programs and their interests in offering their services, in cooperation with the dean of academic affairs.

Director of community services encouraged academic faculty to become directly involved with the community, i.e. development of procedure for working directly with off-campus admissions and enrollment personnel, making their own program contacts. The gain was involvement in decision making and committment to community services.

The dean of academic affairs and dean of continuing education abolished a policy regarding an employee-dependent tuition free enrollment procedure. This move resulted in protection of the fee program for non-credit adult and continuing education programs.

Negative or Unsuccessful Incidents

The administrative staff in continuing education never say "no" to the service publics even when resources and time frames are not supportive to producing a quality-finished product or program. In too many of these situations the continuing education division moves on when help and supportive services could be secured from the area of academic affairs rather than staffing a resourcing form outside the college.

When continuing education administrator approached academic affairs department chairman for assistance with a physical science program, the department chairman was over protective of the staff member in question and said no to the request. The faculty member, however, was very interested in cooperating when approached at a later date. Blocks to staff cooperation and coordination are too offen set up by administrative staff in academic affairs.

Academic affairs forced split in autonomous continuing education program by establishing separate continuing education thrust in each academic division. Felt a loss in coordination and cooperation with an increase in cost and duplication of effort.

Dean of community education is more interested in building his own name rather than building service of the college.

Academic affairs administrators and department chairmen see continuing education as a never ending job; is seen as a threat to their resources and ability to follow through.

Vice-president for instruction by-passed director of continuing education in making contact and securing a contract for academic affairs position when the same person was informally committed for non-credit program.

The dean of academic affairs and dean of continuing education abolished a policy regarding an employee-dependents tuition free enrollment procedure. This created a communication breakdown and coordination problem with other administrative staff.

The president initiated administrative staffing where the administrator held dual or multiple roles and responsibilities which resulted in overlapping job responsibilities, confusion, and excessive vested interests on the administrative team.

Recommendations for Further Research

The findings of this study emphasize a need for further investigation into the area of "top" administrative behavior which is conducive to goal accomplishment and attention to how goals are accomplished. In this respect, emphasis needs to be focused upon the post-secondary administrator as an "environmental creator". The obvious conclusion is that longitudinal studies would be most appropriate. Such studies would permit evaluation of behavior in terms of long range goal accomplishment. Short range research designs might well be directed toward identifying information supportive to the research area identified in this study.

In this respect:

1. Cause-effect relationships need to be established between specific demographic data and critical incidents of positive administrative behavior.

2. Critical behavior patterns of chief executives, presidents and vice-presidents should be correlated with ratings or measurers relative to the functions of management and supervision.

3. Critical incidents of administrative behavior dealing with removal of road blocks to subordinate success should be identified.

4. Alternative methods of data collection through critical incidents should be considered and applied since some respondents to this study experienced difficulty in relating behavior with final results and also those factors, which contributed to the critical behavior.

5. Adaptability and freedom to change appeared to be a critical component in many of the critical incidents of administrative behavior, particularly where successful results were due to many factors. The adaptability factor appears to be an important area of research in the future.

BIBLIOGRAPHY

Barnes, Thelma I. "The Critical Incident Technique," Sociology and Social Research, XLIV, No. 5 (1960), 345-347.

Beutel, James A. "A Time Use Study of Selected California 4-H Club Advisors." Unpublished Master's thesis, University of Wisconsin, 1959.

Biever, Lawrence J. "Roles of County Extension Agents as Perceived by County Agricultural Committee Members in Wisconsin." Unpublished Ph.D. dissertation, University of Wisconsin, 1957.

Bridgman, Charles S., and Others. "Salesmen Helped by Bringing Out Jobs' Critical Incidents," Personnel Journal, XXXVI, No. 11 (1958), 411-414.

Clark, Harry E. "An Analysis of the Training Needs of Wisconsin County Extension Service Personnel." Unpublished Ph.D. dissertation, University of Wisconsin, 1960.

Corbally, Jr., John E. "The Critical Incident Technique and Educational Research," Educational Research Bulletin, XXXV, No. 3 (1956), 57-62.

Cooper, Bernice. "An Analysis of the Quality of the Behaviors of Principals as Observed and Reported in Six Critical Incident Studies," The Journal of Educational Research, LVI, No. 8 (1963), 410-414

Corsini, Raymond J. and Howard, Daniel D. (eds.). Critical Incidence to Teaching. New York: Prentice-Hall, 1964.

Flanagan, John C. "Critical Requirements: A New Approach to Employee Evaluation," Personnel Psychology, II (Winter, 1949), 419-425

Flanagan, John C. "Defining the Requirements of the Executive's Job," Personnel, XXVIII, No. 1 (1951), 28-35.

Flanagan, John C. "The Critical Incident Technique," Psychological Bulletin, LI, No. 4 (1954), 327-358.

Flanagan, Robert C. and Burns, Robert K. "The Employee Performance Record: A New Appraisal and Development Tool," Harvard Business Review, XXXIII (1955). 95-102.

Goldin, Melvin. "Behaviors Related to Effective Teaching." Unpublished Ph.D. dissertation, University of Wisconsin, 1957.

Gordon, Thomas. "The Development of a Method of Evaluating Flying Skill," Personnel Psychology, III (Spring, 1950), 71-84

Gorham, William A. "Staff Nursing Behaviors Contributing to Patient Care and Improvement," Nursing Research, XI, No. 2 (1962), 68-79.

Heckmann, Jr., Irvin L. "An Analysis of the Critical Requirements of Non-Academic Foremanship in a State University." Unpublished Ph.D. dissertation, University of Wisconsin, 1955.

Herzberg, Frederick, Scott Inkley, and William R. Adams. "Some Effects on the Clinical Faculty of a Critical Incident Study of the Performance of Students," Journal of Medical Education, Vol. XXXV (July 1960). 666-674.

Hyatt, George, Jr. "Staff Competence," Journal of Cooperative Extension, IV, No. 3 (1966), 135-142

Jensen, Alfred C. "Determining Critical Requirements for Nurses," Nursing Research, IX, No. 1 (1960), 8-11.

Jensen, Alfred C. "Determining Critical Requirements for Teachers," Journal of Experimental Education, XX, No. 1 (1951), 79-85.

Kessel, Robert M. "The Critical Requirements for Secondary School Business Teachers Based Upon an Analysis of Critical Incidents." Unpublished Ph.D. dissertation, University of Wisconsin, 1956.

Kohl, Fred E. "A Critical Incident Study of Idaho Extension Agricultural Agents." Unpublished Ph.D. dissertation, University of Wisconsin, 1968

Kohl, Fred E. and Carter, G. L. Jr. "A Critical Incident Study of the Professional Adult Educator (Extension Agricultural Agent)." Madison: University of Wisconsin Research Committee, 1970. (Mimeographed.)

Kosy, Eugene J. "The Critical Requirements for Private Secretaries Based Upon an Analysis of Critical Incidents." Unpublished Ph.D. dissertation, University of Wisconsin, 1959.

Mayeske, George W., Francis L. Harmon, and Albert S. Glickman. "What Can Critical Incidence Tell Management," Training and Development Journal, (April 1966). 20-35.

Mayeske, George W. and Glickman, Albert S. "Recall of Critical Incidence," Personnel Research Series, U.S. Department of Agriculture, Office of Personnel. PRS 64-2. February, 1964.

Oaklief, Charles R. A Study of Administrative Relationships in Adult and Continuing Education Divisions and Academic Affairs Divisions in Kansas Junior-Community Colleges. Research Studies in Adult Education, Bureau of General Research. Manhattan: Kansas State University, 1976.

Rusch, William George. "Critical Requirements for Directors and Administers of Christian Education in the Presbyterian Church in the USA," Dissertation Abstracts, XX (1951-9).

Sappington, Charles W. "A Pilot Project to Determine Needed Competencies of Extension County 4-H Agents and to Develop a Curriculum to Provide These Compentencies." University: Mississippi Cooperative Extension Service, 1976. (Mimeographed)

Schmidt, Donald P. and Cohen, David. "The Selection of Psychiatric Aids: I. Critical Requirements of the Job," The American Journal of Psychiatry, CXII (December, 1955), 451-455

Schmid, Fred W. "A Multi-Dimensional Analysis of the Behavior of Hospitalized Mental Patients," Dissertation Abstracts, XIX (1959).

Schwei, Joseph P. "Critical Requirements for Effective Performance of School Administrators." Unpublished Ph.D. dissertation, University of Wisconsin, 1955.

Scott, W. A. "Reliability of Content Analysis--A Case of Nominal Scale Coding," The Public Opinion Quarterly, XIX (1955), 321-325

Sternloff, Robert E. "The Critical Requirements for School Administrators Based Upon an Analysis of Critical Incidents." Unpublished Ph.D. dissertation, University of Wisconsin, 1953.

Stewart, Lawrence H. "A Study of Critical Training Requirements for Teaching Success," Journal of Educational Research, XLIX, No. 9 (1956), 651-661.

Suttell, Barbara J. "Evaluating Potential Officer Effectiveness in a Training Situation," The Journal of Applied Psychology, XXXIX, No. 5 (1955), 338-342

Wagner, L. E. and Sharon, M. I. "Defining Job Requirements in Terms of Behavior," Personnel Administration, XIV (1951). 18-25.

Wagner, Ralph. "A Group Situation Compared with Individual Interviews for Securing Personnel Information," Personnel Psychology, I (1948). 93-107.

Utz, Alan P. Jr. "An Analysis of Selected Factors Relative to Programming Efforts of Kentucky County Extension Agents." Unpublished Ph.D. dissertation, University of Wisconsin, Madison, 1965.